

**IDAPA 37 - DEPARTMENT OF WATER RESOURCES**

**37.03.09 - WELL CONSTRUCTION STANDARDS RULES**

**DOCKET NO. 37-0309-0601**

**NOTICE OF RULEMAKING - ADOPTION OF PENDING RULE**

**EFFECTIVE DATE:** This rule has been adopted by the agency and is now pending review by the 2009 Idaho State Legislature for final approval. The pending rule becomes final and effective at the conclusion of the legislative session unless the rule is approved, rejected, amended or modified by concurrent resolution in accordance with Section 67-5224 and 67-5291, Idaho Code. If the pending rule is approved, amended or modified by concurrent resolution, the rule becomes final and effective upon adoption of the concurrent resolution or upon the date specified in the concurrent resolution.

**AUTHORITY:** In compliance with Section 67-5224, Idaho Code, notice is hereby given that this agency has adopted a pending rule. The action is authorized pursuant to Section 42-238(12), Idaho Code.

**DESCRIPTIVE SUMMARY:** The following is a concise explanatory statement of the reasons for adopting the pending rule and a statement of any change between the text of the proposed rule and the text of the pending rule with an explanation of the reasons for the change:

There have been no substantive changes in the Well Construction Rules since 1988. Updates to the rules are necessary to protect the ground water resources of Idaho from waste and contamination. The Department has used an extensive two-year long negotiated rulemaking process to facilitate the development of the proposed rules.

Resolution to comments received during the public comment period resulted in changes to the language of the proposed rule. Minor editorial changes were made to Rule 025, Subsections 025.01.d., 025.02.b.i., and examples of nominal diameter with respect to outside casing diameter were added to Subsections 025.07.f., 025.07.f.i., 025.07.g., 025.07.g.iv., and 025.07.g.v. Minor editorial changes were made to Rule 025, Subsections 025.13, 025.16.b.ii., 025.18, 025.22, and an example calculation was added to the table in Subsection 025.23. Minor editorial changes were made to Rule 030, Subsection 030.03, 030.03.a., 030.03.c., and to Rule 035, Subsection 035.03, Subsections 035.04 through 035.10 were renumbered as Rule 036, Subsections 036.01 through 036.06. Minor editorial changes were made to Rule 045 Subsection 045.01.a., 045.02.d. and to Rule 050. Language has been added to Rule 025, Subsection 025.03 requiring well coordinates be identified using a GPS. This language appeared in the March 26, 2008 draft, lines 1417-1424 and the April 18, 2008 draft, lines 1362-1367. Significant changes to subsequent drafts resulted in this language being inadvertently omitted. In response to comments, this requirement has been re-inserted. Figures 01, 02, 03, 11, 12, and 13 reflect minor changes.

The text of the pending rule has been amended in accordance with Section 67-5227, Idaho Code. Only those sections that have changes that differ from the proposed text are printed in this bulletin. The complete text of the proposed rule was published in the September 3, 2008 Idaho Administrative Bulletin, Vol. 08-9, pages 204 through 245.

**FISCAL IMPACT:** The following is a specific description, if applicable, of any negative fiscal impact on the state general fund greater than ten thousand dollars (\$10,000) during the fiscal year: N/A

**ASSISTANCE ON TECHNICAL QUESTIONS:** For assistance on technical questions concerning the pending rule, contact Tom Neace, 287- 4935.

DATED this 9th day of October, 2008.

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Substantive changes have been made to the pending rule.  
*Italicized text* is new text that has been added to the pending rule.

Only those sections or subsections that have changed from the original proposed text are printed in this Bulletin following this notice.

The text of the proposed rule was published in the Idaho Administrative Bulletin, Volume 08-9, September 3, 2008, pages 204 through 245.

This rule has been adopted as a pending rule by the Agency and is now awaiting review and approval by the 2009 Idaho State Legislature for final adoption.

THE FOLLOWING IS THE AMENDED TEXT OF DOCKET NO. 37-0309-0601

*Subsections 025.01.d., 025.02.b.i., 025.03, 025.07.f. through 025.07.g.v., 025.13, 025.16.b.ii., 025.18, 025.22, and 025.23.*

**025. CONSTRUCTION OF COLD WATER WELLS (RULE 25).**

All persons constructing wells must comply with the requirements of Section 42-238, Idaho Code, and IDAPA 37.03.10, "Well Driller Licensing Rules." The standards specified in Rule 25 apply to all wells with a bottom hole temperature of eighty-five (85) degrees Fahrenheit or less. Wells with a bottom hole temperature greater than eighty-five (85) degrees Fahrenheit, but less than two hundred twelve (212) degrees Fahrenheit, must meet the requirements of Rule 30 in addition to meeting the requirements of Rule 25. These standards also apply to any waste disposal and injection well as defined in Section 42-3902, Idaho Code. ( )

**01. General.** The well driller must construct each well as follows: (7-1-93)( )

**d.** Meet the siting and separation distance requirements in the table in this Subsection (025.01.d.). Additional siting and separation distance requirements are set forth by the governing district health department and the Idaho Department of Environmental Quality rules at IDAPA 58.01.03, "Individual/Subsurface Sewage Disposal Rules," and IDAPA 58.01.08, "Idaho Rules for Public Drinking Water Systems". (No changes to table) ( )

**025.02**

**02. Waivers.** In unique cases where the Director concludes that the ground water resources will be protected against waste and contamination and the public health and safety are not compromised, a waiver of specific standards required by these rules may be approved prior to constructing, decommissioning, or modifying a well. ( )

**b.** The Director will evaluate and respond to the request within ten (10) business days of receiving the request. ( )

i. If the request for waiver is approved, the intent of the rules will be served and all standards not waived will apply. Waivers approved by the Director will not supersede requirements of other regulatory agencies without specific concurrence from that agency. Work activity related to a waiver request will not proceed until a written or verbal approval is granted by the Director. ( )

025.03

**03. Records.** In order to enable a comprehensive survey of the extent and occurrence of the state's ground water resource, the coordinates of every newly constructed, modified or decommissioned (abandoned) well location must be identified by latitude and longitude with a global positioning system (GPS) and recorded on the driller's report in degrees and decimal minutes and within the nearest 40 acre parcel using the Public Land Survey System. Every well driller must maintain records as described in IDAPA 37.03.10 "Well Driller Licensing Rules," pursuant to Section 42-238(11), Idaho Code, and provide the well owner with a copy of the approved well drilling permit and a copy of the well driller's report when submitted to the Director. ( )

025.07

**037. Sealing of Casing Use of Approved Sealing Materials and Required Annular Space.** Well casings must be sealed in the required annular space with approved material to prevent the possible downward movement of contaminated surface waters or other fluids in any annular space around the well casing (Figure 02, Appendix A). Proper sealing is also required to prevent the movement of groundwater either upward or downward from zones of different pressure, temperature or quality within the well or outside the casing. The well driller must notify by phone the Department's appropriate Region Office at least four (4) hours in advance of placing any annular seal to provide Department staff the opportunity to observe seal placement. (7-1-93)( )

f. For mixed grout seals the minimum annular space required must provide for a uniform seal thickness not less than one (1) inch on all sides of the casing or a borehole at least two (2) inches larger than the outside diameter (OD) of the casing to be sealed (Figure 02, Appendix A). (Note: a seven and seven-eighths (7 7/8) inch diameter (eight (8) inch nominal) borehole around a six and five-eighths (6 5/8) inch OD (six (6) inch nominal) casing does not satisfy the minimum annular space requirements). ( )

i. When placing grout seals with a removable tremie pipe between casing strings or between a borehole and casing, the required annular space must be at least one (1) inch or equal to the OD of the tremie pipe whichever is greater. Permanent tremie pipes will be considered as a casing string and subject to minimum annular space requirements in addition to the annular space requirements around the well casing (Figure 03, Appendix A). ( )

g. For dry bentonite seals the minimum annular space required must provide for a uniform seal thickness not less than one and five-eighths (1 5/8) inches on all sides of the casing or a borehole at least four (4) inches larger than the "nominal diameter" of the casing to be sealed. e.g., (six and five-eighths (6 5/8) inch OD (six (6) inch nominal) casing requires a ten and three fourths (10 3/4) inch OD (ten (10) inch nominal) temporary casing or a nine and seven-eighths (9 7/8) inch (ten (10) inch nominal) minimum borehole). Listed below are additional annular space requirements and limitations for placement of dry bentonite seals: ( )

iv. If a granular bentonite seal is placed deeper than two hundred (200) feet, the minimum annular space must be increased by at least one (1) inch e.g., (six and five-eighths (6 5/8) inch OD (six (6) inch nominal) casing requires a twelve and three fourths (12 3/4) inch OD (twelve (12) inch nominal) temporary casing or an eleven and seven eighths (11 7/8) inch (twelve (12) inch nominal) minimum borehole). ( )

v. Bentonite chips may be placed through water or drilling fluid of appropriate viscosity. Bentonite chip seals placed through more than fifty (50) feet of water or drilling fluid will require the minimum annular space to be increased by at least one (1) inch e.g., (six and five-eighths (6 5/8) inch OD (six (6) inch nominal) casing requires a twelve and three fourths (12 3/4) inch OD (twelve (12) inch nominal) temporary casing or an eleven and seven eighths (11 7/8) inch (twelve (12) inch nominal) minimum borehole). ( )

## 025.13

**103. Monitoring and Remediation Wells.** All monitoring wells ~~shall~~ and remediation wells must be constructed and maintained in a manner that will prevent waste or contamination and as otherwise required by these rules. When a monitoring well or a remediation well is no longer useful or needed, the owner or operator of the well ~~shall~~ must decommission (abandon) the well in accordance with Rule 25, Subsection 025.126 of these rules. No person may divert ground water from a monitoring well or a remediation well for any purpose not authorized by the Director. The application for a permit for all monitoring wells and all remediation wells must include a design proposal prepared by a licensed engineer or registered geologist pursuant to Section 42-235, Idaho Code. Blanket permits for monitoring well and remediation well networks may be approved for site-specific monitoring and remediation programs. The designs and specification for monitoring wells and remediation wells must demonstrate that:

(7-1-93)( )

## 025.16

**126. Decommissioning (Abandoning) of Wells.**

(7-1-93)( )

b. The Director may require ~~the abandonment~~ decommissioning of a well in compliance with the provisions of ~~Rule Subsection 025.12.a:~~ these rules, if the ~~condition of the well~~:

( )

ii. Meets the definition of an unusable well;

( )

## 025.18

**148. Pitless Adapters.** ~~The requirement of using seal material in the top eighteen (18) feet of the annular space around the well casing, as set forth in previous sections of these standards, may be altered when a pitless adaptor is installed; the well driller may, at his discretion, stop the well seal at a maximum of six (6) feet (seal from six (6) feet to eighteen (18) feet) below land surface.~~ When a pitless adaptor is used (Figure 12, Appendix A), the adaptor should be of the type approved by the ~~National Sanitation Foundation (NSF)~~ International testing laboratory or the approval code adopted by the Pitless Adaptor Division of the Water Systems Council. The pitless adaptor, including the cap or cover, casing extension, and other attachments, must be so designed and constructed to be water tight and to prevent contamination of the potable water supply from external sources. If a permanent surface or outer casing is installed and is cut off or breached to install the pitless adapter on an inner well casing or liner, the space between the permanent outer casing and the liner or inner casing must be sealed. The well owner or person installing the pitless adaptor ~~shall~~ must then seal the excavation surrounding the pitless adaptor using ~~bentonite grout or other suitable an approved seal~~ material.

(7-1-93)( )

## 025.22

**1822. Drilling Fluids or Drilling Additives.** ~~Drilling fluids or drilling additives shall not contain drilling fluids or drilling additives a concentration of any substance in excess of drinking water standards as set forth in the current IDAPA 58.01.08, "Rules for Public Drinking Water Systems." The driller shall be responsible for using drilling fluids and additives in accordance with the manufacturer's specifications. Specific products may be approved by the Director on a case-by-case basis.~~ The well driller must use only potable water and drilling fluids or drilling additives that are manufactured for use in water wells, are NSF International, American Petroleum Institute (API), or ASTM/ANSI approved; and do not contain a concentration of any substance in excess of Primary Drinking Water Standards, as set forth in IDAPA 58.01.08, "Rules for Public Drinking Water Systems," according to manufacturer's specifications. The well driller may seek approval from the Director to use specific, non-certified products on a case-by-case basis. In addition, the well driller must ensure the containment of all drilling fluids and materials used or produced to the immediate drilling site, and will not dispose of such fluids or materials into any streams, canals, boreholes, wells, or other subsurface pathways.

(7-1-93)( )

## 025.23

**1923. Disinfection and ~~C~~Decontamination.** ~~No casing, pipe, pumps, artificial gravel packs, drilling~~

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~~tools or other items shall be placed in a well which will cause contamination. Disinfection with a five hundred (500) parts per million chlorine solution (one (1) gallon of chlorine bleach per one hundred (100) gallons clean water) is recommended for all items placed in the well.~~ Upon completion of a well, the driller is responsible for adding the appropriate amount of disinfecting chemical compound and distributing it throughout the well to achieve a uniform concentration for "in place" disinfection of the well. Chlorine compounds used in accordance with the table listed below will satisfy this requirement. Other methods may be used if approved by the Director in advance.

| Amount of Chlorine Needed Per 100 Feet of Water in Well  |   |  |  |
|--|---|--|--|
| Casing Diameter (in.)  | Gallons of water in casing per 100 ft. of water depth | Amount of 5.25% Sodium Hypochlorite (Unscented Laundry Bleach) | Amount of 65% Calcium Hypochlorite (Chlorine Granules) |
| 6  | 147   | 2 ¼ cups   | 3 tbsp   |
| 8  | 261   | 4 cups   | 5 tbsp   |
| 10   | 408   | 6 ¼ cups   | ½ cup  |
| 12   | 588   | 9 cups   | ¾ cup  |
| 16   | 1044  | 1 gal  | 1 ¼ cup  |
| Note: 1 gal = 4 qt = 8 pt = 16 cups; 1 cup = 16 tbsp   |   |  |  |
| Chlorine granules or tablets must be dissolved and placed into the well as a solution.   |   |  |  |
| If another concentration of hypochlorite solution is used, the following equation should be used for calculating amounts.  |   |  |  |
| $(\text{Volume of water in gallons}) \times (0.08) / \% \text{ Hypochlorite (e.g. } 50\% = 50) = \text{cups of hypochlorite}$  |   |  |  |
| Example: To treat 147 gallons of water using a 50% concentration of hypochlorite solution:<br>$(147 \text{ gallons water}) \times (0.08) / 50 = .23$ (or approximately 1/4) cup of 50% Hypochlorite solution |   |  |  |

(7-1-93)( )

Subsections 030.03, 030.03.a., and 030.03.c.

030. CONSTRUCTION OF LOW TEMPERATURE GEOTHERMAL RESOURCE WELLS AND BONDING (RULE 30).

03. Casing. Low temperature geothermal resource wells ~~shall~~ must be properly cased and sealed to protected from cooling by preventing intermingling with cold water aquifers ~~and from loss of pressure by preventing flow into zones of lower pressure.~~ (7-1-93)( )

a. ~~Steel~~ Casing which meets or exceeds the minimum specifications for permanent steel casing of Rule 25, Subsection 0325.024 ~~shall~~ must be installed in every well. The Director may require a more rigid standard for collapse and burst strength as depths or pressures may dictate. Every low temperature geothermal resource well which flows at land surface ~~shall~~ must have a minimum of forty (40) feet of conductor pipe set and cemented its entire length. (7-1-93)( )

c. Subsection 030.03.b. may be waived if it can be demonstrated to the Director through the lithology, electrical logs, geophysical logs, injectivity tests or other data that formations encountered below the last casing string set, will neither accept nor yield fluids at anticipated pressure to the borehole. (7-1-93)( )

*Section 035 (entire Section)*

**035. HEALTH STANDARDS (RULE 35).**

**01. Public ~~Supply~~ Water System Wells.** In addition to meeting these standards, all wells that are constructed for public supply of domestic water ~~shall~~ must meet all of the requirements set forth by the Idaho Department of Environmental Quality Rules, IDAPA 58.01.08, "Idaho Rules for Public Drinking Water Systems." (7-1-93)( )

**02. Special Standards for Construction of Wells When Mineralized or Contaminated Water Is Encountered.** Any time in the construction of a well that mineralized or contaminated water is encountered, the well driller ~~shall~~ must take the appropriate steps necessary to prevent the poor quality waters from entering the well or moving up or down the annular space around the well casing. The method employed to case and seal out this water ~~shall~~ will be determined by the well driller, provided ~~the~~ all other minimum standards are met. The well driller will take Special precautions must be taken in the case of gravel filter-packed wells to prevent water of inferior quality from moving vertically in the gravel filter packed portions of the well. All actions taken will be clearly documented on the well driller's report (7-1-93)( )

**03. Distances From Contaminante Sources.** All water wells constructed for domestic use ~~shall~~ must comply with minimum distances from septic tanks, drain fields, drainfield replacement area and other siting requirements ~~of the Idaho Department of Environmental Quality and the appropriate District Health Department as set forth in Rule 25, Subsection 025.01.d.~~ (7-1-93)( )

~~04. Well Maintenance.~~

*Section 036 (originally part of Section 035)*

**036. OWNERS RESPONSIBILITIES FOR WELL USE AND MAINTENANCE (RULE 36).**

After a well is completed the well owner shall be is responsible for water quality testing, properly maintaining the well, and reporting problems with a well to the Director. All wells shall must be capped, covered and sealed such that debris cannot enter the well, persons or animals cannot fall into the well, and water cannot enter the well around the outside of the casing. Pursuant to Section 42-1603, Idaho Code, the owner of any artesian well that will flow at land surface is required to apply to the Director for approval of a flow control device. (7-1-93)( )

**01. Use.** The well owner must not operate any well in a manner that causes waste or contamination of the ground water resource. Failure to operate, maintain, knowingly allow the construction of any well in a manner that violates these rules, or failure to repair or properly decommission (abandon) any well as herein required will subject the well owner to civil penalties as provided by statute. ( )

**02. Maintenance.** The well owner must: ( )

**a.** Not allow modification to wells under their control without first obtaining an approved Idaho Department of Water Resources (IDWR) permit, pursuant to Section 42-235, Idaho Code; ( )

**b.** Maintain the minimum casing height of twelve (12) inches above land surface and finished grade; ( )

**c.** Maintain the appropriate well cap, and control device if required, according to these Rules; and ( )

**d.** Not install or allow the installation of any well pump that would cause a violation of the sand production requirements in accordance with these Rules or allow the well to pump in excess of that allowed by a valid water right or domestic exemption. ( )

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e. Maintain the well to prevent waste or contamination of ground waters through leaky casings, pipes, fittings, valves, pumps, seals or through leakage around the outside of the casings, whether the leakage is above or below the land surface. Any person owning or controlling a non-compliant well must have the well repaired by a licensed well driller under a permit issued by the Director in accordance with these Rules. ( )

03. New Construction. The well owner must not construct or allow construction of any permanent building, except for buildings to house a well or plumbing apparatus, or both, closer than ten (10) feet from an existing well. ( )

04. Maintain All Other Separation Distances. The well owner must not construct or install, or allow the construction or installation of any object listed in a location closer than that allowed by the table of Rule 25, Subsection 025.01.e. ( )

05. Unusable Wells. The well owner must have any unusable well repaired or decommissioned (abandoned) by a licensed well driller under a permit issued by the Director in accordance with these Rules. ( )

06. Wells Posing a Threat to Human Health and Safety or Causing Contamination of the Ground Water Resource. The well owner must have any well shown to pose a threat to human health and safety or cause contamination of the ground water resource immediately repaired or decommissioned (abandoned) by a licensed well driller under a permit issued by the Director in accordance with these Rules. ( )

036Z. -- 039. (RESERVED).

*Subsections 045.01.a. and 045.02.d.*

045. DRILLING PERMIT REQUIREMENTS (RULE 45).

01. General Provisions. (7-1-93)

a. The owner of a well to be constructed, drilled, deepened or enlarged on or after July 1, 1987 shall obtain a drilling permit from the Director prior to construction or drilling of the well. Drilling permits are required pursuant to Section 42-235, Idaho Code, prior to construction or modification of any well. (7-1-93)( )

045.02

02. Effect of a Permit. (7-1-93)

d. A drilling permit authorizes the construction of one (1) well (except ~~group~~ for blanket monitoring well and blanket remediation well drilling permits) unless other holes started under terms of the permit are properly abandoned and the department is advised of the abandonment. (7-1-93)( )

*Section 050 (entire Section)*

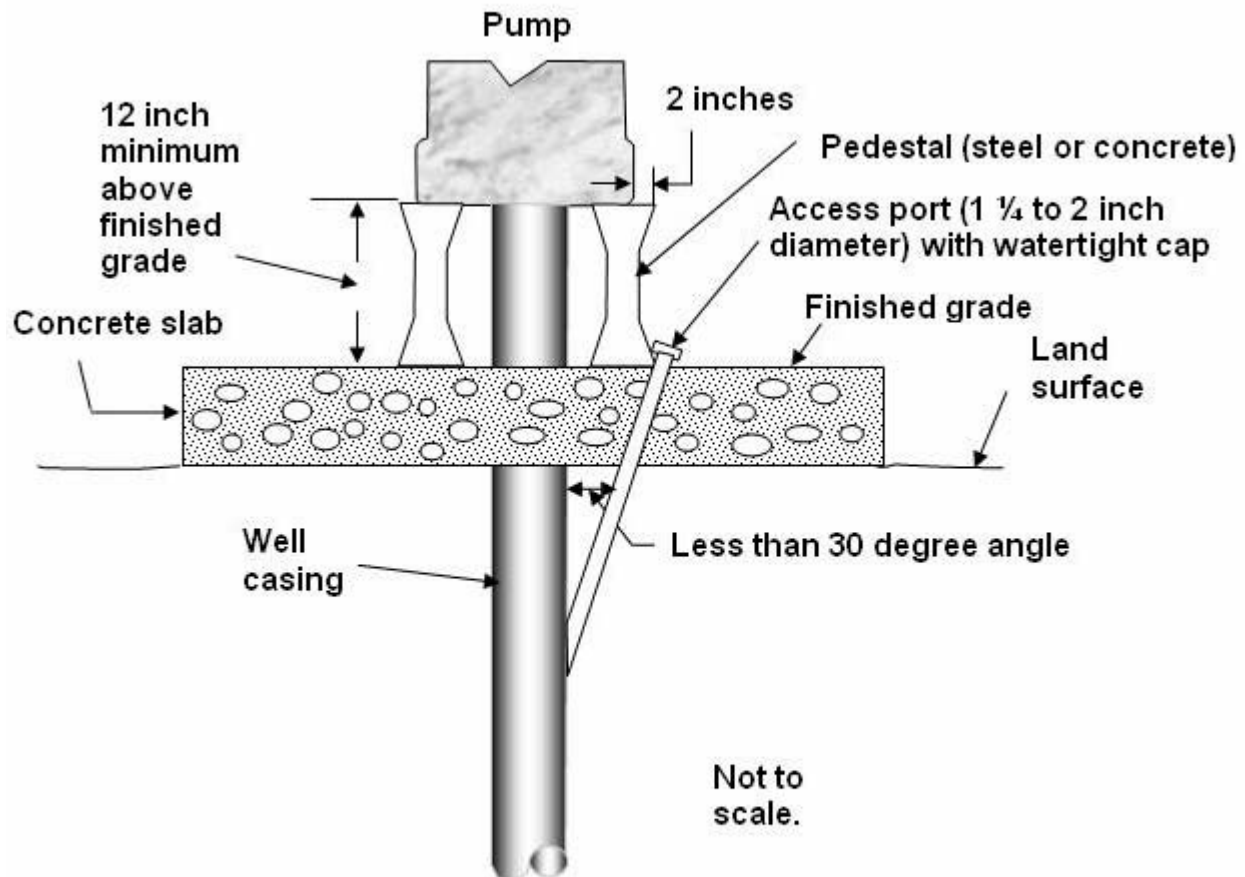
050. PENALTIES (RULE 50).

A person owning or controlling a well that allows waste or contamination of the state's ground water resources or causes a well not to meet the construction standards provided in these ~~Rules~~ is subject to the civil penalties as provided by statute. A driller who violates the foregoing provisions of these ~~minimum~~ well construction standards ~~Rules~~ is subject to enforcement action and the penalty provisions specified in 42-238 and 42-238b, Idaho Code penalties as provided by Statute. (7-1-93)( )

*Figures 01., 02., 03., 11., 12., and 13. in Appendix A have been amended.*

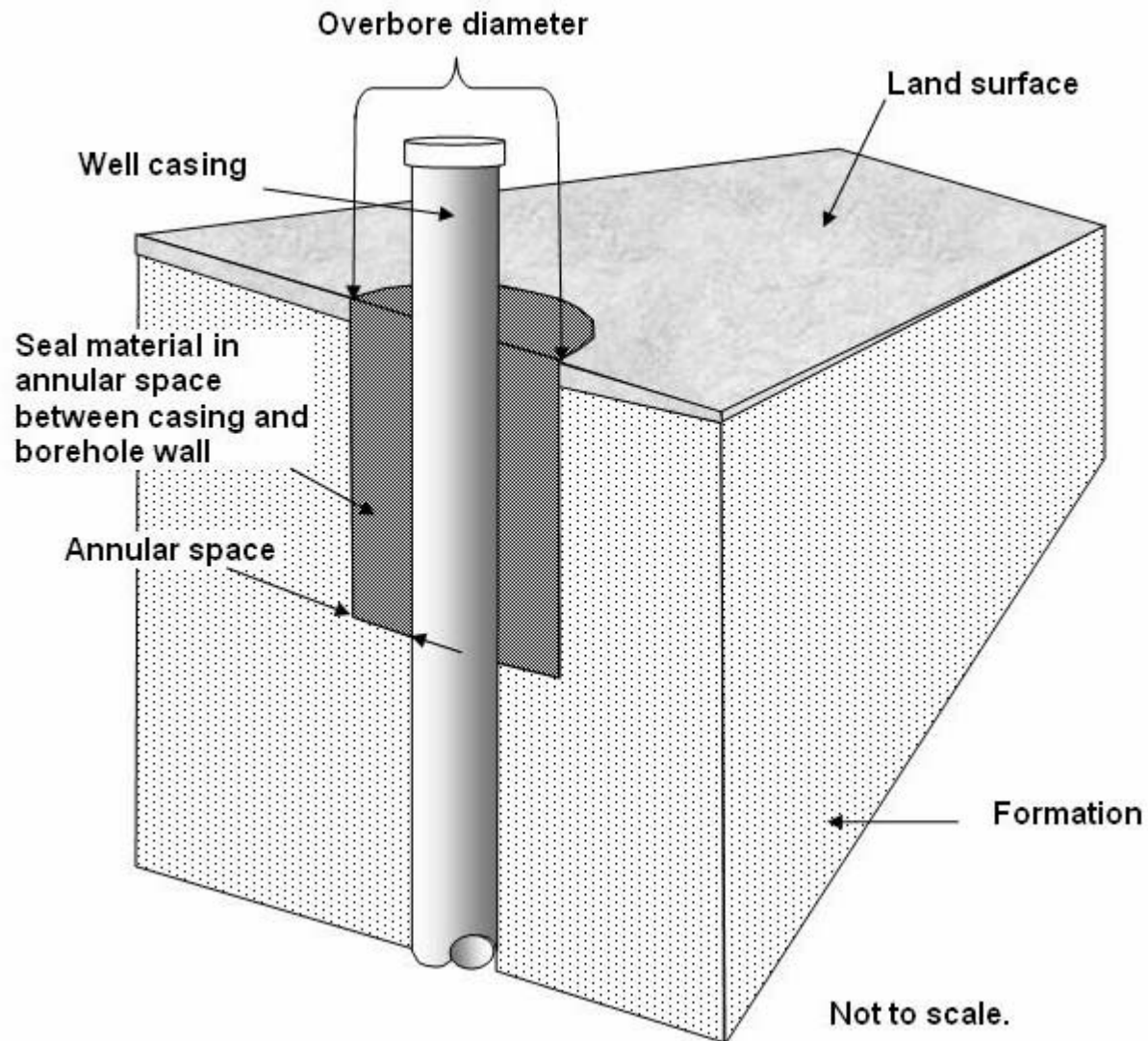
APPENDIX A

Figure 01. Concrete Slabs and Finished Grade.



**Note.** Pedestal shall not extend more than two (2) inches past pump base in horizontal direction.

Figure 02. Annular Space and Overbore.



**Figure 03. Overbore Requirements When a Tremie Pipe is Left in Place and A Grout Seal Installed.**

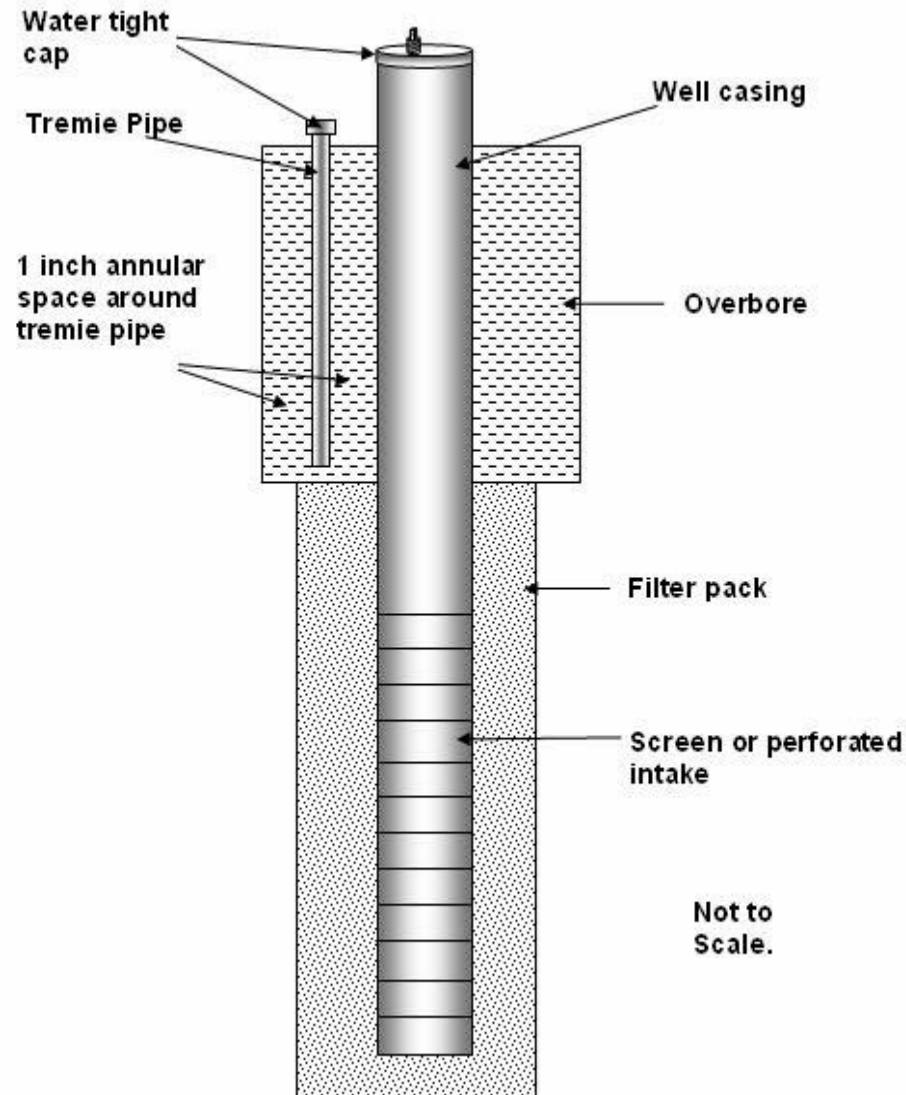
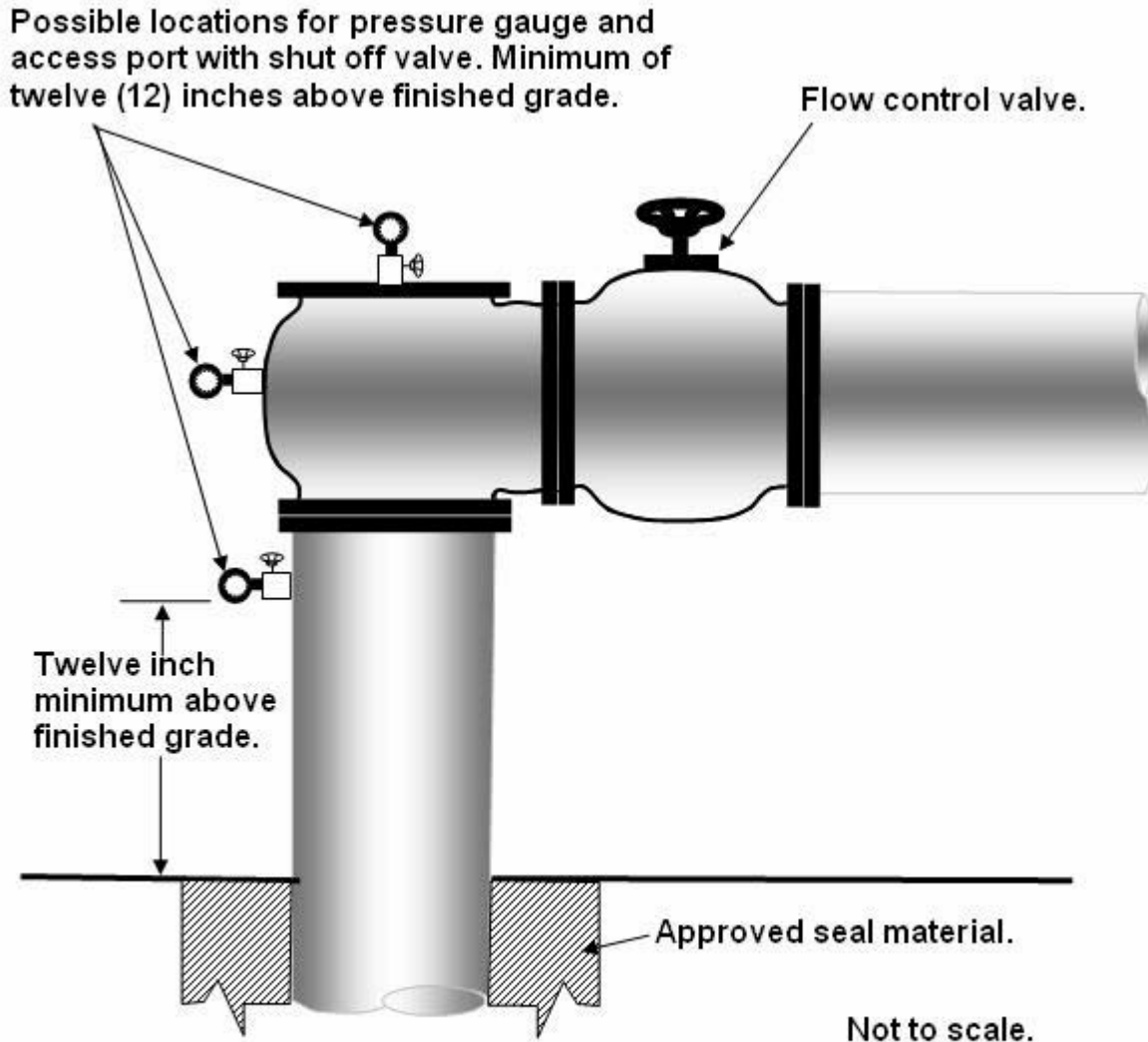


Figure 11. Access Ports, Pressure Gauges, and Control Valves.



Note. Application and approval of control device is required on any flowing artesian well per Section 42-1603, Idaho Code.

Figure 12. Well Cap and Access Port.

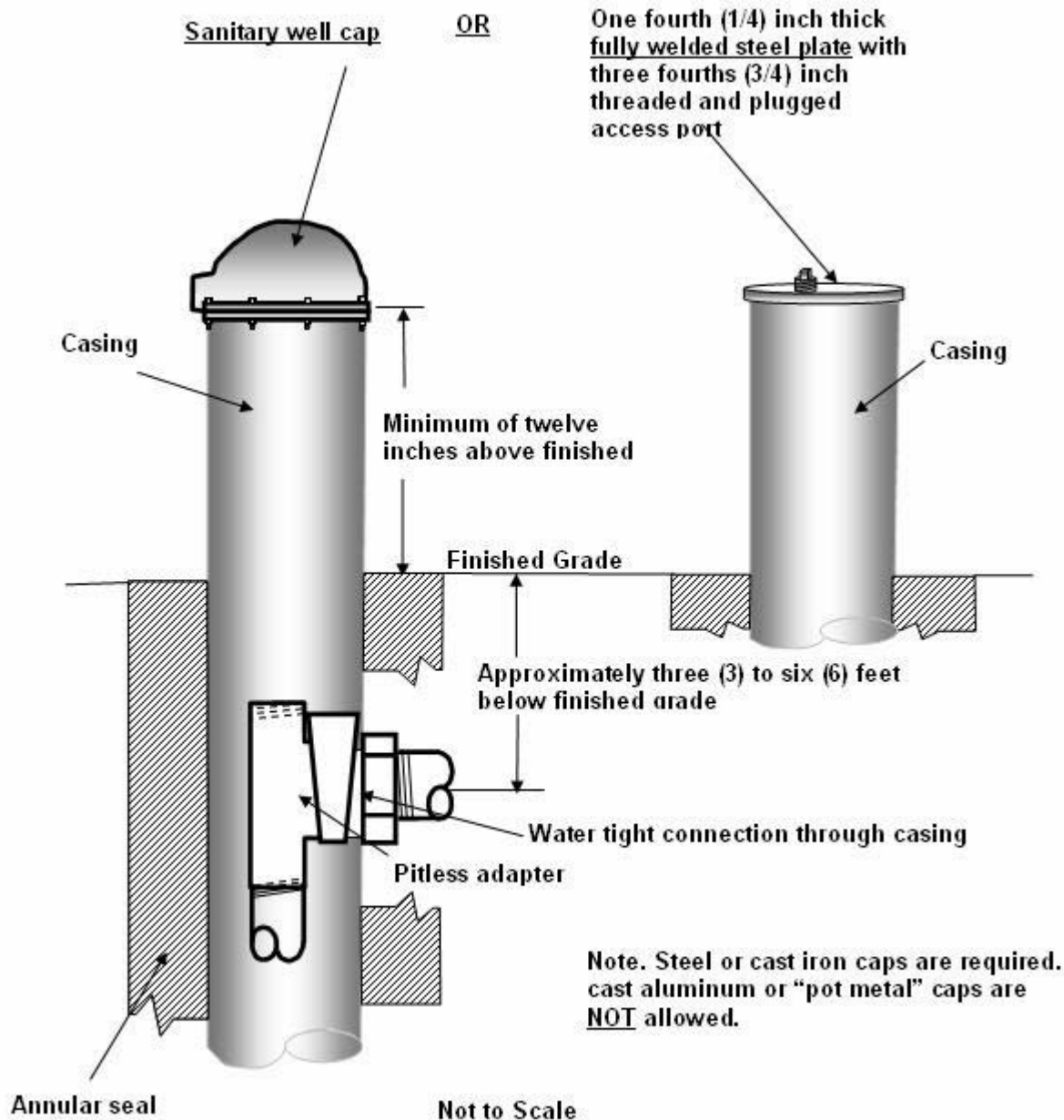


Figure 13. Casing Requirements for Low Temperature Geothermal Wells.

